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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,762	03/19/2004	Yan Qi	A-72186/TAL/DCF	8100

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EXAMINER	
KELLY, ROBERT M	

ART UNIT	PAPER NUMBER
1633	

MAIL DATE	DELIVERY MODE
05/14/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/804,762	QI ET AL.	
	Examiner	Art Unit	
	ROBERT M. KELLY	1633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5,6,14,15 and 17-26* is/are pending in the application.

4a) Of the above claim(s) *18-26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5,6,14,15 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/18/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's amendment and argument of 11/21/07 are entered.

Claims 1, 5, 6, and 15 are amended.

Claims 33-37 and 39 are cancelled.

Claims 1, 5, 6, 14, 15, and 17-26 are presently pending.

Election/Restrictions

Claims 18-26 remain withdrawn as being drawn to non-elected inventions.

Claims 1, 5-6, 14-15, and 17 are presently considered.

Claim Status, Cancelled Claims

In light of the cancellation of Claims 33-37 and 39, all objections and/or rejections of such claims are withdrawn, as they rendered moot.

Withdrawn Rejections

All rejections not repeated within this Official Action are withdrawn, due to the amendments.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 14, 15, and 17 remain rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Steps critical or essential to the practice of the invention, but not included in the claim(s) are not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

Applicant's amendment to claim 1 now brings about a prediction of inhibition when the cells are transplanted, however, no transplantation step is required, and hence, as in the reasoning of record, the claims are rejected for absence of exposure to an allogenic tissue which could mount an adaptive T cell response, and hence, no inhibition is made.

Synopsis of rejection: Applicant's claims are drawn to inhibition of an adaptive T cell response, however, at no point in the claims is there a step to exposure of such cells/tissues to an allogenic tissue which could mount an adaptive T cell response, and such is described throughout the specification as the purpose of such method, and the only way such a response which can be inhibited is brought about.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

In light of the amendments, the rejections of Claims 1, 5, 6, and 14 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application No. 2002/0127205 to Edge, et al, are withdrawn.

To wit, as is of record, Edge teaches whole CD8, as further evidenced by the Shiue reference (paragraph 0059), which demonstrates that the CD8 of human exists as a heterodimer. Hence, Edge does not teach or make obvious the CD8-alpha chain only.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 6, 14, 15 and 17 remain rejected under 35 U.S.C. 102(b) as being anticipated by any one of U.S. Patent Nos. 5,623,056, 5,601,828 or 5,242,687, each to Tykocinski, et al., for reasons of record.

Each patent is described in terms of the 5,601,828 patent, as they have similar disclosures as per the rejected subject matter.

With regard to Claims 1, 5, and 6, Tokocinski teaches specific and non-specific immunomodulation, enhancement of cellular engraftment, and modulation of non-immune cells achieved by using various membrane-binding and soluble CD8 compositions (e.g., ABSTRACT). Such CD8 is specifically defined in the specification to be CD8 alpha (col. 5, paragraph 3). Further such CD8 may be made in membrane bound form, using either the natural CD8 transmembrane sequence, or using other transmembrane sequences attached to the CD8 alpha functional domain (e.g., col. 7, paragraph 4). Further, such cells may be transformed to express the CD8 molecule on its surface (e.g., col. 11, paragraph 2). Such cells and

compositions are taught to suppress T cell activation through the proximity of the CD8 molecule with the alloantigen (e.g., col. 3, paragraph 4). Still further, to enhance allogenic engraftment, the cells are coated with CD8 prior to transplantation, which the Artisan would recognize to include either the transgenic expression, or the other methods of such coating described in the specification.

With regard to Claims 15 and 17, the human CD8 alpha chains are disclosed (e.g., col. 5, paragraph 4).

Moreover, it is noted that some of the claims in the 5,623,056 patent are drawn to the cells expressing CD8 and the antigen (e.g., Claims 15-19).

Response to Argument – anticipation, Tykocinski references

Applicant's response of 11/21/07 has been fully considered but is not found persuasive.

Applicant argues that the Tykocinski patents fail to teach inhibition of T cells using an expression vector encoding a CD8 alpha chain that includes a transmembrane domain for cell surface expression (p. 8, penultimate paragraph).

Such is not persuasive. Each of these aspects was previously clearly addressed (and presently clearly re-addressed) and specific reference to each limitation's location within the '828 patent is provided. Applicant is requested to clarify how it does not actually disclose such limitations.

Applicant argues that Tykocinski fails to teach the use of CD8 alpha alone to specifically inhibit T cell responses and to extend the survival of an allograft in a recipient (p. 8, last paragraph).

Such is not persuasive. The Examiner has pointed to these limitations in the specification during the original rejection and the present rejection. Further, the vectors used to transform the cells would necessarily comprise the coding sequence for CD8 alpha, and hence, the claims read on such methods taught by Tykocinski.

Applicant argues that Tykocinski teach only that a native or genetically engineered CD8 can inhibit T cells or other cells when said CD8 is associated with a second ligand that could otherwise function as a cellular activator, and further teaches several conjugates, which are not naturally associated with CD8 that are linked to the CD8, pointing to the present Staerz declaration of 11/21/07, paragraphs 5-7.

Such is not persuasive. It is clear that Tykocinski teaches that the cells may be transformed to express CD8 alpha in transplant tissue (col. 2, last paragraph) and such coating may be performed by transformation (which is inherently with a vector) to express CD8 alpha (col. 11, paragraph 2). Further, while several methods of inducing immunity to various things require covalent linkage to another protein as argued by Applicant, Tykocinski also teaches that the linkage to such "activator" may be by association through cellular membrane (col. 11, paragraph 3). Hence, the Artisan would necessarily recognize that the alloMHC or antigen encompasses those present naturally on the transplanted tissue. While the Examiner does not argue the disclosure also to encompass other mechanisms of specific inhibition, such a reading of the specification is narrow and selective, and does not consider the specific disclosure pertinent and cited (both previously and presently) as it applies to present rejections. Hence, given the teachings of Tykocinski, the Artisan would clearly make allografts for transplant, and transplant such, which allografts still read on Applicant's claimed invention. With regard to paragraphs 5-7

of the Staerz declaration, the paragraphs essentially argue that the CD8 peptide must be associated with a second ligand that acts as a cellular Activator, and that several demonstrations are discussions are drawn to specific ligands, and that Applicant's invention is CD8 alpha without any additional moiety (Staerz declaration, paragraphs 5-7). However, such association is clearly brought about when it is on the same cellular biomembrane (col. 11, paragraph 3), and further such may be by transformation of the transplant tissue to express the CD8 alpha (col. 11, paragraph 2). Hence, Dr. Staerz similarly is ignoring aspects taught specifically by Tykocinski. Tykocinski may have broad applicability, but it fails to negate the fact that the methods are specifically taught. Moreover, broad aversion that more is needed is not sufficient, as something specific must be demonstrated to be needed, and it must be apparent that Tykocinski is therefore deficient.

Applicant argues that the vector comprising the transmembrane domain linked to the CD8alpha is not taught, pointing to several spaces in the specification, and further the Staerz declaration present concurrently with the latest response (p. 9, last paragraph-p. 10, first paragraph).

Such is not persuasive. As has been, and is currently, demonstrated, Tykocinski teaches such. Reading the specification selectively only obfuscates the full disclosure of Tykocinski. The Staerz declaration is similarly focused on reading the other embodiments encompassed by Tykocinski, rather than the specific aspects pertinent to the rejected claims. Hence, the rejection is maintained.

Applicant sums up their argument to say that CD8 alpha alone is not taught, only association with secondary ligands; and that linked membrane-binding ligands are only taught, not those naturally associated CD8 membrane binding linkages.

Again, CD8 alpha alone is taught (e.g., col. 2, last paragraph), and the natural transmembrane domain associated with CD8 alpha are taught (e.g., col. 7, paragraph 4).

Hence, the rejections are maintained.

Conclusions

No claim is allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT M. KELLY whose telephone number is (571)272-0729. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Woitach can be reached on (571) 272-0739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert M Kelly/
Acting Examiner of Art Unit 1633